

REMARKS

The above Amendment and the following Remarks are in timely Reply to the non-final Office Action dated 01/02/03 in this Application. Thirty-four claims (1-34) were pending in this Application. In the above Amendment, Claim 1, 18, 27 and 2 have been amended. Accordingly, 34 remain pending in this Application of which claims 1, 18, 27 and 28 are in independent form for reconsideration and further examination. In light of this Reply, the Applicants respectfully request reconsideration and further examination of this Application, pursuant to 37 CFR 1.111.

Objection to Informal Drawings

Applicant is submitting formal drawings with this response.

Rejection under 35 U.S.C. § 102

In paragraph 2 of the Office Action, the Examiner rejected claims 1, 4-9, 17-18, 25-26, 28, 30-32 under 35 U.S.C. 102(b) as being anticipated by Kikinis et al. (U.S. Pat. 5,841,424), stating, in pertinent part,

“As to *claim 1*, Kikinis discloses a mobile device (PC with keyboard 11 serving as a housing) comprising a housing having an expansion module bay (bays 19a-19d)(note col. 3, lines 5-15); an expansion module (adapter or peripheral devices)(note col. 2, lines 9-13) having a first USB connector (female connector 55); and a second USB connector (pin matrix 29) positioned inside the bay to mate with the first USB connector when the expansion module is inserted in the bay (note col. 5, lines 52-60).

As to *claim 18*, Kikinis discloses a mobile device (PC with keyboard 11 serving as a housing) comprising a housing having an expansion module bay (bays 19a-19d)(note col. 3, lines 5-15); a USB controller within the housing (microcontroller 47)(note col. 5, lines 16-29); and a USB connector (pin matrix 29) coupled to the USB controller, the USB connector positioned within the expansion bay module in an expansion module receiving position(note col. 3, lines 33-42).

As to claim 28, Kikinis discloses an expansion module for a mobile device (adapters or peripheral devices) (note col. 2, lines 9-130, the expansion module comprising: a USB interface (note Fig. 6 and col. 6, lines 1-8).

In light of the above Amendments to independent claims 1, 18, 27 and 28, and the Remarks that follow, this rejection is respectfully traversed.

Claim 1:

Kikinis fails to disclose or suggest the various aspects of the present invention. In particular Kikinis fails to disclose, “a mobile device that can operate both as a host or a device” with “a processor that can function as a USB controller configured to operate as a USB host

or a USB device". (Claim 1, Also, see specification, Page 6, lines 26-28). Kiknis also fails to disclose "a housing having an expansion module bay; an expansion module having a first USB connector; and a second USB connector positioned inside the bay to mate with the first USB connector when the expansion module is inserted in the bay". [Claim 1]

Kiknis discloses "a keyboard with Universal Bus protocol" with "multiple bays with physical engagement interfaces and electrical connectors for supporting serial-compatible peripheral devices. (Kiknis, Abstract). Kiknis provides bays 19a-19d "to accept special adapters for the purpose of stationing peripherals on keyboard 11. (Kiknis, col. 3, lines 9-10).

The Examiner has compared the mobile device of Claim 1 of the present invention to a personal computer with a keyboard. A personal computer as, used in Kiknis and in general, is not a mobile device. Also, the keyboard by itself cannot operate both as a host or a device. In Kiknis, the "microcontroller 47" of Figure 5 only maintains normal operations with a key matrix 51 through standard AxB communication, as is common with other keyboards and is known in the art." A "multiplex switch 53 communicates with pin matrices 29 in bays 19a through 19d. Three select lines running from micro controller 47 to multiplex switch 53 serve to select bay 19 for any instant data transfer." (Kiknis, col. 5, lines 28-37). The Kiknis microcontroller 47 only selects the bay for data transfer. It is not designed to function as a USB host/device, unlike the present mobile device which can function both as a host or a device.

In light of the foregoing distinctions, it is respectfully submitted that the Examiner's rejection of claim 1 under 35 U.S.C. 102(b) as being anticipated by Kiknis is untenable, and must be withdrawn. Accordingly, withdrawal of Examiner's rejection of Claim 1 is respectfully requested.

Claims 4-9, 17: Claims 4-9, and 17, directly or indirectly, depend from Claim 1 and are hence patentable for at least the reasons discussed above for Claim 1. It is respectfully submitted that the Examiner's rejection of claim 4-9 and 17 under 35 U.S.C. 102(b) as being anticipated by Kiknis is untenable, and must be withdrawn. Accordingly, withdrawal of Examiner's rejection of Claims 4-9 and 17 is respectfully requested.

Claim 18:

Regarding Claim 18, Kiknis fails to disclose a Mobile device **that can operate both as a host or a device** . Kiknis also fails to disclose “a housing having an expansion module bay; **a processor that can function as a USB controller configured to operate as a USB host or a USB device within the housing**; and a USB connector coupled to the USB controller; the USB connector positioned within the expansion bay module in an expansion module-receiving position.

Claim 18 is patentable over Kiknis for at least the reasons discussed above regarding Claim 1. Accordingly, withdrawal of Examiner’s rejection of Claim 18 is respectfully requested.

Claim 25-26: Claims 25-26 depend from Claim 18 and are hence patentable for at least the reasons discussed above for Claim 18. It is respectfully submitted that the Examiner’s rejection of claim 25-26 under 35 U.S.C. 102(b) as being anticipated by Kiknis is untenable, and must be withdrawn. Accordingly, withdrawal of Examiner’s rejection of Claims 25-26 is respectfully requested.

Claim 28: Regarding Claim 28, Kiknis fails to disclose “an expansion module for a mobile device that can operate **both as a USB host or a USB device**”. Kiknis also fails to disclose the expansion module with a USB interface coupled to **a processor that can function as a USB controller configured** to operate as a USB host or a USB device; and a USB connector for the USB interface.

Claim 28 is patentable over Kiknis for at least the reasons discussed above regarding Claim 1. Accordingly, withdrawal of Examiner’s rejection of Claim 18 is respectfully requested.

Rejection under 35 U.S.C. § 103

The Examiner rejected Claims 10-11, 27, 33-34 under 35 USC § 103(a) as being unpatentable over Kiknis.

Claim 10-11: Claims 10 and 11 depend from Claim 7 that depends from Claim 1, and are hence patentable for at least the reasons discussed above for Claim 1. It is respectfully submitted that the Examiner's rejection of claim 10-11 under 35 U.S.C. 102(b) as being anticipated by Kiknis is untenable, and must be withdrawn. Accordingly, withdrawal of Examiner's rejection of Claims 10-11 and is respectfully requested.

Claim 27: Regarding Claim 27, Kiknis fails to disclose or suggest "a personal digital assistant that can **operate both as a USB host or a USB device**". Kiknis also fails to disclose "a housing having an expansion module bay; **a processor that can function as a USB controller configured** to operate as a USB host or a USB device within the housing; and a USB connector for the USB controller; the USB connector being positioned within the expansion module bay, the USB connector being positioned to receive a mating USB connector of an expansion module."

Claim 27 is patentable over Kiknis for at least the reasons discussed above regarding Claim 1. Accordingly, withdrawal of Examiner's rejection of Claim 18 is respectfully requested.

Claims 33-34: Claims 33-34 depend from Claim 28 and are hence patentable over Kiknis for at least the reasons discussed above for Claim 28 (i.e. Claim 1, above). It is respectfully submitted that the Examiner's rejection of claim 33-34 under 35 U.S.C. 102(b) as being anticipated by Kiknis is untenable, and must be withdrawn. Accordingly, withdrawal of Examiner's rejection of Claims 33-34 is respectfully requested.

Claim 2,3,19, 29: The Examiner rejected Claim 2, 3, 19 and 29 as being unpatentable over Kiknis as applied to claims 1,4-9, 17-18, 25-26, 28, 30-32 and further in view of Ban et al. (U.S. Patent No. 6,148,354).

Claims 2 and 3 depend from Claim 1, Claim 19 depends from Claim 18, and Claim 29 depends from Claim 28 and are patentable over Kiknis and Ban for at least the same reasons dis-

cussed above. Firstly, there is no motivation or suggestion to combine Kiknis and Ban et. al. Assuming arguendo, that Kiknis and Ban can be combined, the combination does not cure the deficiency described above with respect to Claim 1.

The Examiner has relied on Ban stating that:

“Ban discloses that the USB standard offers a smaller form factor and greater ease of use[r][sic] for the end user (note col. 1, lines 43-53).” It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to employ the first and second connectors with a smaller form factor because it is a standard of USB and is specified to be an industry-wide standard promoted by companies such as Compaq Computer Corporation, Microsoft, IBM and Intel [Office Action, Page 6, Paragraph, 4].

Claims 2-3, 19 and 29 state that the form factor is less than the standard USB form factor. Hence the Applicant did not follow the USB form factor, but instead went against the standard. It is respectfully submitted that the Examiner's rejection of claim 2-3, 19 and 29 under 35 U.S.C. 103(b) as being anticipated by Kiknis and Ban is untenable, and must be withdrawn. Accordingly, withdrawal of Examiner's rejection of Claims 2-3, 19 and 29 is respectfully requested.

Claims 12-16 and 20-24: The Examiner rejected Claims 12-16 and 20-24 as being unpatentable over Kiknis as applied to claims 1,4-9, 17-18, 25-26, 28, 30-32 and further in view of Hart et al (U.S. Patent No. 6,041,372).

Claims 12-16 depend directly or indirectly from Claim 1, and Claims 20-24 depend directly or indirectly from Claim 18, and are patentable over Kiknis and Hart for at least the same reasons discussed above. Also, there is no motivation or suggestion to combine Kiknis and Hart et. al.

The Examiner relies on Hart by stating that :

“Hart teaches a subsystem an external device (processor module) in which a conversion circuit resides at the subsystem side (note col. 6, lines 26-44). It would have been obvious to one of ordinary skill in the art at the time the invention was made to employ a conversion circuit on the main side as taught by Hart, coupled between the USB controller and the first USB connector in the system of Kiknis to provide timing between components is achieved (note col. 6 lines 37-44) and also to effectively upgrade external devices with a minimal cost (note col. 2, lines 13-20). [Office Action Page 7, Paragraph 5]

Hart discloses a “voltage conversion circuit 221” that “receives subsystem signals by secondary bridge 205 along subsystem signal line 210, and converts the voltage level of these

subsystem signals to a voltage level indicated by the voltage reference signal provided by reference signal 222.” [Hart, Col. 6, lines 26-30].

Firstly, as the Examiner has cited, the Hart circuit is located at the subsystem side and the purpose of this circuit is to adjust the signals at the subsystem level before they reach processor 220. (Hart, Col. 6, Lines 38-40). This is used in upgrading a processor family.

Hart does not disclose a conversion circuit of the present invention (Claims 12-16 and 20-24) that allows “boosting or reducing voltage in a variety of ways. For example, the circuit in the present invention can operate in both in the USB host or device mode. [Patent application, Page 10, Lines 14-23]. Also, there is no suggestion or motivation to move the circuit from the subsystem level since Hart solves a specific problem for upgrading processors, rather than allow a mobile device to be connected to a variety of devices as a USB host or USB device.

Assuming arguendo, that Kiknis and Hart can be combined, the combination does not cure the deficiency of Kiknis, described above with respect to Claim 1.

It is respectfully submitted that the Examiner’s rejection of claim 12-16, and 20-24 under 35 U.S.C. 103(b) as being anticipated by Kiknis and Hart is untenable, and must be withdrawn. Accordingly, withdrawal of Examiner’s rejection of Claims 12-16 and 20-24 is respectfully requested.

CONCLUSION

For the foregoing reasons, Applicant believes Claims 1-34 are allowable, and a notice of allowance is respectfully requested. If the Examiner has any questions regarding the application, the Examiner is invited to call the undersigned Attorney at (949) 955-1920.

Respectfully submitted,



Tejinder Singh

Attorney for Applicants

Reg. No. 39,535

I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class Mail in an envelope addressed to: Assistant Commissioner for Patents, Washington, D.C. 20231, on April 30, ^A
2003.



Tejinder Singh
Attorney for Applicant(s)



Date of Signature

ATTACHMENT A

In the claims:

In the following amendments, deletions are shown **[bold and enclosed in brackets]**, and insertions are shown **bold and underlined**.

claims 1, 10, 11, 16, 17, 23, 24, 28, 33, 35, 37, 38, 39, 41 and 44-49 are amended as follows:

1. (Currently Amended) A Mobile device **that can operate both as a host or a device** comprising:

a processor that can function as a USB controller configured to operate as a USB host or a USB device;

a housing having an expansion module bay;

an expansion module having a first USB connector; and

a second USB connector positioned inside the bay to mate with the first USB connector when the expansion module is inserted in the bay.

18. (Currently Amended) A Mobile device **that can operate both as a host or a device** comprising:

a housing having an expansion module bay;

a processor that can function as a USB controller configured to operate as a USB host or a USB device within the housing;

[a USB controller within the housing;] and

a USB connector coupled to the USB controller; the USB connector positioned within the expansion bay module in an expansion module-receiving position.

27. (Currently Amended) A personal digital assistant **that can operate both as a USB host or a USB device** comprising:

a housing having an expansion module bay;

a processor that can function as a USB controller configured to operate as a USB host or a USB device within the housing;

[a USB controller within the housing;] and

a USB connector for the USB controller; the USB connector being positioned within the expansion module bay , the USB connector being positioned to receive a mating USB connector of an expansion module.

28. (Currently Amended) An expansion module for a mobile device **that can operate both as a USB host or a USB device**, the expansion module comprising:

a USB interface **coupled to a processor that can function as a USB controller configured to operate as a USB host or a USB device;** and

a USB connector for the USB interface.